



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,894	06/14/2005	Joachim Berthold	FR 6082 (US)	5148
34872	7590	10/01/2007		
BASELL USA INC. INTELLECTUAL PROPERTY 912 APPLETON ROAD ELKTON, MD 21921			EXAMINER HEINCER, LIAM J	
			ART UNIT 1709	PAPER NUMBER
			MAIL DATE 10/01/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/538,894

Applicant(s)

BERTHOLD ET AL.

Examiner

Liam J. Heincer

Art Unit

1709

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 6-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☒ Claim(s) 1 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

**DETAILED ACTION*****Election/Restrictions***

Applicant's election with traverse of Group I, claims 1-5 in the reply filed on August 8, 2007 is acknowledged. The traversal is on the ground(s) that Moriguchi et al. fails to disclose, teach or suggest the high-molecular-mass copolymer B. This is not found persuasive because Moriguchi et al. does in fact teach the copolymer of the present invention. In Example 2-1, Moriguchi et al. teaches a high-molecular-mass copolymer comprising ethylene and 1-butene monomers (17:1-14). The section cited by the applicant is in fact a restriction on the catalyst used, not on the polymer produced by the catalyst. The requirement is still deemed proper and is therefore made FINAL.

Claims 6-10 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on August 8, 2007.

***Claim Objections***

Claim 1 is objected to because of the following informalities: the abbreviation MFR<sub>190/21.6</sub> is used in line 3, but is never defined in the claim or the original specification. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1 and 3-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Moriguchi et al. (US Pat. 4,536,550).

Considering Claim 1: Moriguchi et al. teaches a polyethylene composition with multimodal molecular mass distribution, with a density of from 0.950 to 0.956 g/cm<sup>3</sup> (9:66-10:1) and MFR in the range of 1.5 to 3.5 dg/min (10:3-5) and which comprises 35 to 45% by weight (2:13-16) of a low molecular mass (2:59-60) polyethylene polymer A (2:52-56); from 34 to 44% by weight (2:13-16) of a high molecular mass (3:28-29) copolymer B made from ethylene and a first 1-olefin comonomer having from 4 to 8 carbons (2:52-58); and from 18 to 26% by weight of an ultrahigh molecular mass (3:8-10) copolymer C containing a second 1-olefin comonomer (2:52-58).

Considering Claim 3: Moriguchi et al. teaches the 1-olefin comonomers as being 1-butene, 1-hexene, 1-pentene, 1-octene or 4-methyl-1-pentene (2:56-58).

Considering Claim 4: Moriguchi et al. teaches the composition of claim 1. Therefore it would inherently have the same properties as the instant composition, namely a viscosity number of from 500 to 600 cm<sup>3</sup>/g. See MPEP § 2112.

Considering Claim 5: Moriguchi et al. teaches an impact strength in the range of 60 to 90 kJ/m<sup>2</sup> (Table 3). In addition, Moriguchi et al. teaches the composition of claim 1. Therefore it would inherently have the same properties as the instant composition, namely a swell ratio in the range of 180 to 220% and a stress crack resistance in the range of 15 to 25 hours. See MPEP § 2112.

Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Berthold et al. (US Pat. 6,713,561).

Art Unit: 1709

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Considering Claim 1: Berthold et al. teaches a polyethylene composition with multimodal molecular mass distribution (1:11-13) which has a density in the range of from 0.920 to 0.956 at 23 °C (2:28-30) an MRF in the range of from 1.5 to 3.5 dg/min (Table 1) and which comprises from 35 to 45% by weight of a low-molecular-mass ethylene homopolymer (2:14-17); from 34 to 44% by weight of a high-molecular-mass copolymer made from ethylene and a 1-olefin comonomer having from 4 to 8 carbon atoms (2:17-19); and from 18 to 26% by weight of ultrahigh-molecular-mass ethylene copolymer containing a second 1-olefin comonomer (2:19-21).

Considering Claim 2: Berthold et al. teaches the first 1-olefin comonomer as being present at less than 0.1% by weight (2:30-34) and the second 1-olefin as being present in an amount 0 to 10% by weight (2:35-39).

Considering Claim 3: Berthold et al. teaches the 1-olefins as being 1-butene, 1-hexene, 1-pentene, 1-octene or 4-methyl-1-pentene (2:34-35).

Considering Claim 4: Berthold et al. teaches the viscosity number as being from 500 to 600 cm<sup>3</sup>/g (2:40-46).

Considering Claim 5: Berthold et al. teaches the swell ratio as being from 180 to 220% (Table 1), and the stress-crack resistance as being in the range of 15 to 25 hours (Table 1). In addition, Berthold et al. teaches the composition of claim 1. Therefore it would inherently have the same properties as the instant composition, namely the notched impact strength as being in the range from 60 to 90 kJ/m<sup>2</sup>. See MPEP § 2112.

Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Berthold et al. (WO 01/23446). Note: US Pat. 6,713,561 is being used as an English language equivalent of WO 01/23446 and all references will be to this document.

Art Unit: 1709

Considering Claim 1: Berthold et al. teaches a polyethylene composition with multimodal molecular mass distribution (1:11-13) which has a density in the range of from 0.920 to 0.956 at 23 °C (2:28-30) an MRF in the range of from 1.5 to 3.5 dg/min (Table 1) and which comprises from 35 to 45% by weight of a low-molecular-mass ethylene homopolymer (2:14-17); from 34 to 44% by weight of a high-molecular-mass copolymer made from ethylene and a 1-olefin comonomer having from 4 to 8 carbon atoms (2:17-19); and from 18 to 26% by weight of ultrahigh-molecular-mass ethylene copolymer C containing a second 1-olefin comonomer (2:19-21).

Considering Claim 2: Berthold et al. teaches the first 1-olefin comonomer as being present at less than 0.1% by weight (2:30-34) and the second 1-olefin as being present in an amount 0 to 10% by weight (2:35-39).

Considering Claim 3: Berthold et al. teaches the 1-olefins as being 1-butene, 1-hexene, 1-pentene, 1-octene or 4-methyl-1-pentene (2:34-35).

Considering Claim 4: Berthold et al. teaches the viscosity number as being from 500 to 600 cm<sup>3</sup>/g (2:40-46).

Considering Claim 5: Berthold et al. teaches the swell ratio as being from 180 to 220% (Table 1), and the stress-crack resistance as being in the range of 15 to 25 hours (Table 1). In addition, Berthold et al. teaches the composition of claim 1. Therefore it would inherently have the same properties as the instant composition, namely the notched impact strength as being in the range from 60 to 90 kJ/m<sup>2</sup>. See MPEP § 2112.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1709

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moriguchi et al. (US Pat. 4,536,550) as applied to claim 1 above, and further in view of DeChellis et al. (US Pat. 5,405,922).

Considering Claim 2: Moriguchi et al. teaches the composition of claim 1.

Moriguchi et al. does not teach the co-monomers being used in the claimed ratio. However, DeChellis et al. teaches using an alpha-olefin co-monomer in an amount less than 0.1% and in an amount between 0.1 to 0.6% by weight (5:39-53). Moriguchi et al. and DeChellis et al. are combinable as they are concerned with the same field of endeavor, namely ethylene copolymers. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have used the alpha-olefins in the amount prescribed by DeChellis et al. in the composition of Moriguchi et al., and the motivation to do so would have been, as DeChellis et al. suggest, to control the density of the ethylene copolymer (5:45-53).

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO form 892.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory

Art Unit: 1709

obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-5 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2, and 5-8 of U.S. Patent No. 6,713,561. Although the conflicting claims are not identical, they are not patentably distinct from each other because:

Considering Claim 1: Patent '561 teaches a polyethylene composition with multimodal molecular mass distribution which has a density in the range of from 0.920 to 0.956 at 23 °C an MRF in the range of from 1.5 to 3.5 dg/min and which comprises from 35 to 45% by weight of a low-molecular-mass ethylene homopolymer; from 34 to 44% by weight of a high-molecular-mass copolymer made from ethylene and a 1-olefin comonomer having from 4 to 8 carbon atoms; and from 18 to 26% by weight of ultrahigh-molecular-mass ethylene copolymer C containing a second 1-olefin comonomer (Claim 1).



Art Unit: 1709

Considering Claim 2: Patent '561 teaches the first 1-olefin comonomer as being present at less than 0.1% by weight (claim 6) and the second 1-olefin as being present in an amount 0 to 10% by weight (claim 7).

Considering Claim 3: Patent '561 teaches the 1-olefins as being 1-butene, 1-hexene, 1-pentene, 1-octene or 4-methyl-1-pentene (claim 7).

Considering Claim 4: Patent '561 teaches the viscosity number as being from 500 to 600 cm<sup>3</sup>/g (claim 8).

Considering Claim 5: Patent '561 teaches the composition of claim 1. Therefore it would inherently have the same properties as the instant composition, namely the swell ratio as being from 180 to 220%, the notched impact strength as being in the range from 60 to 90 kJ/m<sup>2</sup> and the stress-crack resistance as being in the range of 15 to 25 hours. See MPEP § 2112.

Claims 1-3 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-3 of copending Application No. 10/537,728. Although the conflicting claims are not identical, they are not patentably distinct from each other because:

Considering Claim 1: Application '728 teaches a polyethylene composition with multimodal molecular mass distribution which has a density in the range of from 0.920 to 0.956 at 23 °C an MRF in the range of from 1.5 to 3.5 dg/min and which comprises from 35 to 45% by weight of a low-molecular-mass ethylene homopolymer; from 34 to 44% by weight of a high-molecular-mass copolymer made from ethylene and a 1-olefin comonomer having from 4 to 8 carbon atoms; and from 18 to 26% by weight of ultrahigh-molecular-mass ethylene copolymer C containing a second 1-olefin comonomer (Claim 1).

Considering Claim 2: Application '728 teaches the first 1-olefin comonomer as being present at less than 0.1% by weight and the second 1-olefin as being present in an amount 0 to 10% by weight (claim 2).

Considering Claim 3: Application '728 teaches the 1-olefins as being 1-butene, 1-hexene, 1-pentene, 1-octene or 4-methyl-1-pentene (claim 3).

Art Unit: 1709

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

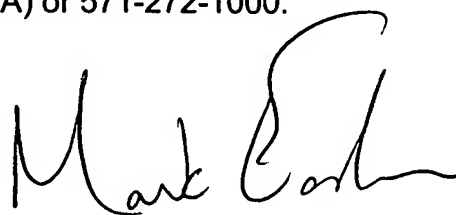
**Correspondence**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Liam J. Heincer whose telephone number is 571-270-3297. The examiner can normally be reached on Monday thru Friday 7:30 to 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LJH



MARK EASHOO, PH.D.  
SUPERVISORY PATENT EXAMINER

September 13, 2007

27/ Sep/07